What is claimed is:

1. A pre-decoder for a turbo decoder for decoding a turbo code consisting of a data symbol stream and a plurality of parity symbol streams parts of which are punctured, the pre-decoder comprising:

an arithmetic unit for carrying out a same algorithm with respect to a binary-coded data bit stream that the turbo encoder performs for generating parity bit streams, and generating an estimation value of the parity bit streams;

a comparison unit for comparing non-punctured bits of the parity bit streams with the estimation value generated by the arithmetic unit;

a modulation unit for modulating the estimation value of the parity bit streams generated by the calculation unit to the parity symbol streams; and

a recovery unit for recovering punctured parts of the parity symbol streams by substituting the punctured parts of the parity symbol streams for values of symbols of the estimation values corresponding to the punctured parts, when the respective non-punctured bits of the parity bit streams are identical with the bits of the estimation values according to a comparison result of the comparison unit.

2. The pre-decoder as claimed in claim 1, wherein, when it is determined that different bits exist according to the comparison of the respective non-punctured bits of the parity bit streams and the bits of the estimation values by the comparison unit, the recovery unit assigns a predetermined value to the punctured parts of the parity symbol input after a symbol corresponding to the different bits.

3. The pre-decoder as claimed in claim 1, wherein the arithmetic unit includes a

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plurality of recursive systematic convolutional (RSC) blocks corresponding to the number of the parity symbol streams, and at least one interleaver for interleaving the data bit stream and providing the interleaved data bit stream to at least one of the RSC blocks.

5   4. The pre-decoder as claimed in claim 1, further comprising a binary-coding unit for generating the binary-coded data bit stream and the parity bit streams by binary-coding the data symbol stream and the parity symbol streams, and providing the binary-coded data bit stream and the parity bit streams to the arithmetic unit and the comparison unit, respectively.

10   5. The pre-decoder as claimed in claim 1, further comprising a demultiplexer for separating the turbo code transferred from a demodulator into the data symbol stream and the parity symbol streams and providing the data symbol stream and the parity symbol streams to the arithmetic unit and the comparison unit, respectively.

15   6. A method for recovering a turbo code consisting of a data symbol stream and a plurality of parity symbol streams parts of which are punctured, the method comprising the steps of:

        extracting a data symbol stream and a plurality of parity symbol streams from a received turbo code;

20   calculating an estimation value of parity bit streams by carrying out an algorithm with respect to a data bit stream corresponding to the data symbol stream, the algorithm being used by a turbo encoder for producing the parity bit streams corresponding to the parity symbol stream;

        comparing the parity bit streams corresponding to the parity symbol streams with the

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estimation value;

modulating the estimation value to the parity symbol streams; and

substituting the punctured parts of the parity symbol streams for a value of a symbol

of the estimation values corresponding to the punctured parts, when the respective bits of the

5   parity bit streams are identical with the bits of the estimation values according to a

comparison result of the comparison step.

7. The method as claimed in claim 6, further comprising a step of, in the case that

different bits exist as the comparison result of the comparison step, assigning a predetermined

10   value to the punctured symbols input after a symbol corresponding to the different bits.